8 July 1964
GN:bb:323
997-112

MEMORANDUM   STATINTL

To:

From:

Subject: Survey of Recording Microdensitometers

        CC:
STATINTL

    A literature survey of recording microdensitometers for general use
has just been completed. This memo describes the results of this survey.
STATINTL
        On March 12, 1964, a letter requesting information pertaining to re-
cording microdensitometers was sent to forty-three companies which were possi-
ble suppliers of recording microdensitometers. Thirty-nine companies responded
to our request; with seventeen indicating that they manufactured or distributed an
instrument which was suitable for measuring density on a microscopic scale.
Eight of the instruments for which information was obtained were designed specifi-
cally for spectrographic work and are not applicable for general use.

        Table I summarizes the results of the survey. The first column is a
list of company names and addresses in alphabetical order. An affirmative reply
in column 2 indicates that the company markets a microdensitometer. The date of
their reply is also included. The name of the instrument is given in the third
column. If no model name exists, the word "own" indicates that the company manu-
factures the instrument. If the company markets the instrument for another firm,
the manufacturer is listed in the third column. The fourth column indicates where
tests can be conducted. The term "customer facilities" indicates that one of their
customers would have to be contacted to arrange for tests. The final column con-
sists of general remarks on the design considerations.

        A review of Table 1 shows that eight companies supply instruments which
are multi-purpose microdensitometers for which enough information is available to
tabulate their characteristics. Table 2 is a summary of the available data covering

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the general features of these instruments. In some cases several different models of microdensitometers are listed for one company. Blanks indicate that information was not supplied in response to the survey.

Recommendations

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It is recommended that a number of companies be visited to obtain further information about the microdensitometers listed in Table 2. A set of standard tests which have been designed at ▇▇▇ (see memo: Microdensitometer Evaluation Tests, MM:bb:282) should be conducted at the manufacturer or distributor. The information gathered from the tests should make a classification of microdensitometers possible.

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Six companies should be visited. ▇▇▇▇▇▇▇ does not have an instrument available for testing, and the ▇▇▇▇▇▇▇ instrument does not appear to have the capabilities of the other instruments. The six companies which should be visited are listed below with a brief discussion of special features which should be investigated during the visit.

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STATINTL ▇▇▇▇ has developed a magnetic tape read-out system for high speed accurate scanning.

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STATINTL ▇▇▇▇▇▇▇▇▇▇▇▇ has constructed an instrument jointly with
STATINTL the ▇▇▇▇▇▇▇▇▇▇▇▇▇ has been responsible for developing a system (Micro-Spot) for scanning with very small apertures, and for
STATINTL this reason a separate trip should be planned.

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STATINTL ▇▇▇▇ has developed three different microdensitometers varying in capabilities and cost. They have a micro-image scanner and a reflection microscope for use with their microdensitometer.

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STATINTL   uses a servo-system which keeps the film in constant focus.

STATINTL   Flare light is reduced by making the illuminating numerical aperture less

than the measuring numerical aperture.

STATINTL   has developed a null type instrument which has the advan-

tage of not being sensitive to fluctuations in the light source intensity. A

STATINTL   dichroic mirror in the system allows for viewing while scanning.

STATINTL   markets a microdensitometer
STATINTL   made by   The instrument is a low cost instrument

with some degree of versatility.

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